

FIGURE 1

Sputum samples were obtained from 7 CF patients not on rhDNase therapy. Aliquots of sputum were incubated at 37° for 30 minutes with either Ringer (10% added volume) or USHERDEX 4 (DEX) to achieve a final concentration of 0.4%. Rigidity modulus (viscoelasticity) was determined by magnetic rheometry, and mucociliary clearability was determined by observing the rate of sputum transport on excised frog palate.

* significantly different from Baseline; † significantly different from Ringer.

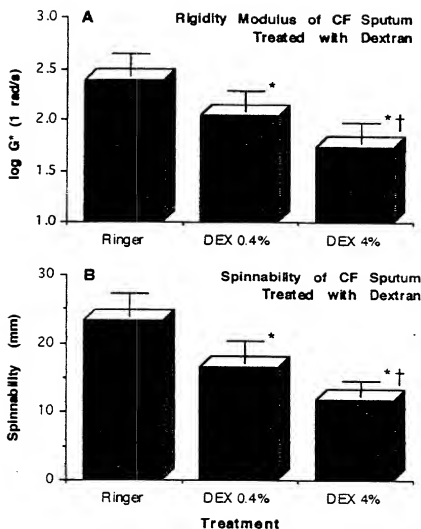


FIGURE 2

Sputum samples were obtained from 8 CF patients not receiving rhDNase. Aliquots of sputum were incubated at 37° for 30 minutes with Ringer (10% added volume) or USHERDEX 4 (DEX) to achieve final concentrations of 0.4% (4mg/ml) or 4% (40 mg/ml). Ridity modulus (viscoelasticity) was determined by magnetic rheometry, and spinnability was determined by filancemeter* significantly different from Ringer; + significantly different from DEX 0.4%.

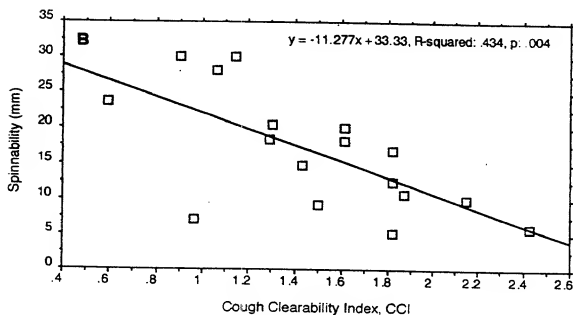
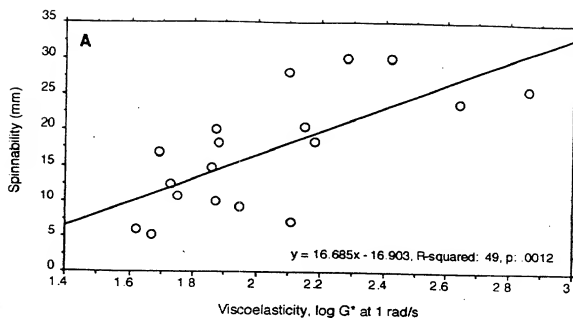


FIGURE 3

Correlations between sputum spinnability, as determined by filancemeter, and rigidity modulus (viscoelasticity), as determined by magnetic rheometry, and cough clearability as predicted from viscoelastic data. A negative correlation between spinnability and MCI was also obtained ($p=.0138$).

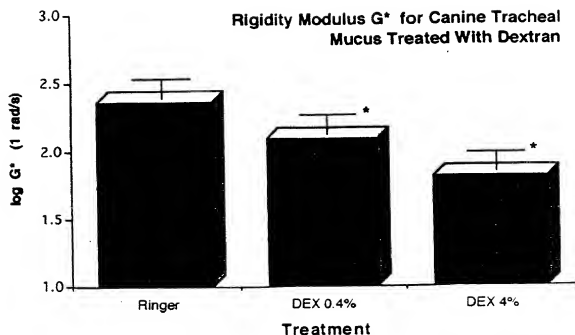


FIGURE 4

Tracheal mucus was obtained from 7 healthy, anaesthetized dogs from the endotracheal tube cuff. Aliquots of mucus were incubated at 37° for 30 minutes with Ringer (10% added volume) or USHERDEX 4 (DEX) to achieve final concentrations of 0.4% (4mg/ml) or 4% (40 mg/ml). Rigidity modulus (viscoelasticity) was determined by magnetic rheometry* significantly different from Ringer treatment.

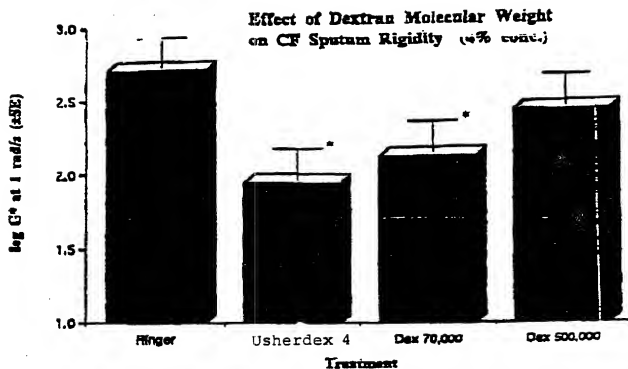


FIGURE 5

* significantly different from Ringer treatment.